

LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A particle refining apparatus comprising:
a conduit to be integrated into a process system, the conduit being suitable for transporting a material to a containment device;
a shaft having distal and proximal ends, the shaft being disposed in at least a portion of the conduit;
a blade set attached near the proximal end of the shaft, the blade set being proximate to the containment device;
attachment couplings disposed between the shaft and the conduit, the attachment couplings supporting the shaft and allowing the shaft to freely rotate.
2. (Original) The particle refining apparatus of claim 1, further comprising a screen attached to the end of the particle refining apparatus and adjacent the blade set.
3. (Original) The particle refining apparatus of claim 1, wherein the conduit is divided, including a first portion for retaining the shaft, the blade set and the attachment couplings, and a second portion for providing particle intake.
4. (Original) The particle refining apparatus of claim 3, further comprising a mount affixed to the first portion opposing the containment device, and a motor mechanism attached to the mount and the distal end of the shaft.

5. (Original) The particle refining apparatus of claim 4, further comprising a variation device attached to the motor mechanism to vary an output speed of the motor mechanism.
6. (Original) The particle refining apparatus of claim 1, wherein the shaft is arranged so that at least a portion of the blade set is positioned within the containment device.
7. (Original) The particle refining apparatus of claim 1, wherein the blade set includes a plurality of blades configured in an offset pattern.
8. (Original) The particle refining apparatus of claim 7, wherein at least one of the plurality of blades is formed to slant toward the containment device.
9. (Original) The particle refining apparatus of claim 7, wherein at least one of the plurality of blades is formed to slant into the conduit.
10. (Original) The particle refining apparatus of claim 7, wherein at least one of the plurality of blades is formed to slant toward the containment device, at least one of the plurality of blades is formed to slant away from the containment device and at least one of the plurality of blades is formed substantially straight on a radial line with the shaft.

11. (Currently Amended) A particle refining apparatus comprising:

a housing configured to be connected to a process system including a containment device and an influent conduit; the housing being connected to the containment device and the influent conduit;

a shaft having distal and proximal ends, the shaft being disposed in at least a portion of the influent conduit;

a blade set attached near the proximal end of the shaft, the blade set being proximate to the containment device; and

attachment couplings arranged within the housing, the attachment couplings supporting the shaft and allowing the shaft to freely rotate.

12. (Original) The particle refining apparatus of claim 11, further comprising a screen attached to the end of the particle refining apparatus and adjacent the blade set.

13. (Currently Amended) ~~The particle refining apparatus of claim 11, A particle refining apparatus comprising:~~

a housing configured to be connected to a process system including a containment device and an influent conduit, the housing being connected to the containment device and the influent conduit;

a shaft having distal and proximal ends, the shaft being disposed in at least a portion of the influent conduit;

a blade set attached near the proximal end of the shaft, the blade set being proximate to the containment device; and

attachment couplings arranged within the housing, the attachment couplings supporting the shaft and allowing the shaft to freely rotate,

wherein the influent conduit includes a first and second end, the first end being connected to the containment device and the second end having a split configuration, the second end including a first portion for connecting an influent stream to the influent conduit and a second portion for enclosing the particle refining apparatus.

14. (Original) The particle refining apparatus of claim 11, further comprising a mount affixed to the housing, and a motor mechanism attached to the mount and the distal end of the shaft.

15. (Original) The particle refining apparatus of claim 14, further comprising a variation device attached to the motor mechanism to vary an output speed of the motor mechanism.

16. (Original) The particle refining apparatus of claim 13, further comprising an attachment device affixed to the second portion, and a motor mechanism attached to the attachment device and the distal end of the shaft.

17. (Original) The particle refining apparatus of claim 16, further comprising a variation device attached to the motor mechanism to vary an output speed of the motor mechanism.

18. (Original) The particle refining apparatus of claim 11, wherein at least one of the housing and the shaft is arranged so that at least a portion of the blade set is positioned within the containment device.

19. (Original) The particle refining apparatus of claim 11, wherein the blade set includes a plurality of blades configured in an offset pattern.

20. (Original) The particle refining apparatus of claim 19, wherein at least one of the plurality of blades is formed to slant toward the containment device.

21. (Original) The particle refining apparatus of claim 19, wherein at least one of the plurality of blades is formed to slant into the housing.

22. (Original) The particle refining apparatus of claim 19, wherein at least one of the plurality of blades is formed to slant toward the containment device, at least one of the plurality of blades is formed to slant into the housing and at least one of the plurality of blades is formed substantially straight on a radial line with the shaft.

23. (Currently Amended) A particle refining system comprising:

a containment device;

an influent conduit; and

a refining apparatus positioned between the influent conduit and the containment device,

the refining apparatus including:

a housing configured to be connected to the influent conduit and the containment device;

a motor attached to the housing;

a shaft having distal and proximal ends, the distal end of the shaft being attached to the motor, the shaft being disposed in at least a portion of the conduit;

a blade set attached near the proximal end of the shaft; and

attachment couplings arranged within the housing, the attachment couplings supporting the shaft.

24. (Original) The particle refining apparatus of claim 23, further comprising a screen attached to the end of the refining apparatus and adjacent the blade set.

25. (Original) The particle refining system of claim 23, further comprising a variation device attached to the motor to vary an output speed of the motor.

26. (Original) The particle refining system of claim 23, wherein the refining apparatus is arranged so that at least a portion of the blade set is positioned within the containment device.

27. (Original) The particle refining system of claim 23, wherein the blade set includes a plurality of blades configured in an offset pattern.

28. (Original) The particle refining system of claim 27, wherein at least one of the plurality of blades is formed to slant toward the containment device.

29. (Original) The particle refining system of claim 27, wherein at least one of the plurality of blades is formed to slant into the housing.

30. (Original) The particle refining system of claim 27, wherein at least one of the plurality of blades is formed to slant toward the containment device, at least one of the plurality of blades is formed to slant into the housing and at least one of the plurality of blades is formed substantially straight on a radial line with the shaft.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)